



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE  
Office of Coast Survey  
Silver Spring, Maryland 20910-3282

## FINAL Project Instruction

**Date Submitted:** May 16, 2016

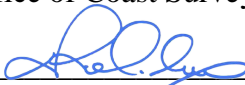
**Platform:** NOAA Ship *Rainier*

**Project Number:** RA-16-02 (OMAO)

**Project Title:** OPR-P136-RA-16  
North Coast of Kodiak Island

**Project Dates:** May 17, 2016 to July 1, 2016  
September 26, 2016 to September 30, 2016

Prepared by: \_\_\_\_\_ Dated: May 16, 2016  
For LCDR Michael O. Gonsalves  
NOAA Chief, Operations Branch  
Hydrographic Surveys Division  
Office of Coast Survey

Approved by:  \_\_\_\_\_ Dated: May 16, 2016  
For CAPT Eric Berkowitz, NOAA  
Chief, Hydrographic Surveys Division  
Office of Coast Survey

Approved by: \_\_\_\_\_ Dated: \_\_\_\_\_  
CDR Brian Parker, NOAA  
Commanding Officer  
Marine Operations Center – Pacific



**I. Overview**

**A. Brief Summary and Project Period**

This survey is scheduled to begin in May 2016 and end in September 2016. This project is being conducted in support of NOAA’s Office of Coast Survey to provide contemporary hydrographic data in order to update the nautical charting products and reduce survey backlog in the area.

**B. Days at Sea (DAS)**

Of the 43 DAS scheduled for this project, 0 DAS are funded by an OMAO allocation, 43 DAS are funded by a Line Office Allocation, 0 DAS are Program Funded, and 0 DAS are Other Agency funded. This project is estimated to exhibit a medium Operational Tempo.

**C. Operating Area**

The project area is located in North Coast Kodiak Island, Alaska. A map of the project area can be found with the detailed project instructions appended to these instructions.

**D. Summary of Objectives**

This project will support the following primary mission:  
To support safe navigation through the acquisition and processing of hydrographic survey data for updating nautical charts and by the identification and dissemination of dangers to navigation as identified during the course of survey operations.

**E. Participating Institutions**

Office of Coast Survey

**F. Personnel/Science Party: name, title, gender, affiliation, and nationality**

<b>Name (Last, First)</b>	<b>Title</b>	<b>Date Aboard</b>	<b>Date Disembark</b>	<b>Gender</b>	<b>Affiliation</b>	<b>Nationality</b>
Argento, Adam	PS	5/17	5/27	M	NOAA	US
Reser, Katie	PS	6/3	6/17	F	NOAA	US
Argento, Adam	PS	6/20	7/1	M	NOAA	US
Ortiz, Fernando	PS	9/26	9/30	M	NOAA	US

**G. Administrative**

**1. Points of Contacts:**

Principal Investigator:  
LCDR Michael Gonsalves, NOAA  
Chief, Operations Branch  
Hydrographic Surveys Division

1315 East West Hwy, #6854  
Silver Spring, MD 20910  
301-713-2702 x112  
[Michael.Gonsalves@noaa.gov](mailto:Michael.Gonsalves@noaa.gov)

Project Manager:  
Lori Powdrell  
Physical Scientist, Operations Branch  
Hydrographic Surveys Division  
1315 East West Hwy, #6725  
Silver Spring, MD 20910  
301-713-2702 x133  
[Lori.powdrell@noaa.gov](mailto:Lori.powdrell@noaa.gov)

Project Manager Back-up:  
Jacklyn James  
Physical Scientist, Operations Branch  
Hydrographic Surveys Division  
1315 East West Hwy, #6854  
Silver Spring, MD 20910  
301-713-2702 x120  
[jacklyn.c.james@noaa.gov](mailto:jacklyn.c.james@noaa.gov)

Chief Scientist:  
CDR Edward J. Van Den Ameele, NOAA  
Commanding Officer, NOAA Ship *Rainier*  
2002 SE Marine Science Drive  
Newport, Oregon 97365-5229  
(206) 660-8747  
[CO.Rainier@noaa.gov](mailto:CO.Rainier@noaa.gov)

2. Diplomatic Clearances

None Required.

3. Licenses and Permits

The Office of Coast Survey is sensitive to the potential effects of its operations on the physical, biological, and cultural marine environment. In accordance with the National Environmental Protection Act, Coast Survey prepared a Programmatic Environmental Assessment to gauge the environmental impacts resulting from surveying and other data-gathering activities. As a result, the National Ocean Service has published a Finding of No Significant Impact (FONSI) for the Office of Coast Survey program of conducting hydrographic surveys for the calendar years 2013 - 2018. For further information, please refer to:  
<http://www.nauticalcharts.noaa.gov/Legal/>

## II. Operations

The Commanding Officer is responsible for ensuring the scientific staff are trained in planned operations and are knowledgeable of project objectives and priorities. The Commanding Officer is responsible for ensuring all operations conform to the ship's accepted practices and procedures.

A. Project Itinerary:

DEP: 5/17/2016	Mon: Seattle, WA	RA-16-02 Leg 1
ARR: 5/27/2016	Fri: Kodiak, AK	OPR-P136-RA-16 North Kodiak Island
DEP: 6/3/2016	Fri: Kodiak, AK	RA-16-02 Leg 2
ARR: 6/17/2016	Fri: Homer, AK	OPR-P136-RA-16 North Kodiak Island
DEP: 6/20/2016	Fri: Homer, AK	RA-16-02 Leg 3
ARR: 7/1/2016	Fri: Kodiak, AK	OPR-P136-RA-16 North Kodiak Island
DEP: 9/26/2016	Fri: Kodiak, AK	RA-16-04
ARR: 9/30/2016	Fri: underway	OPR-P136-RA-16 North Kodiak Island

B. Staging and Destaging:

Staging and de-staging are not planned for this project.

C. Operations to be Conducted:

Hydrographic survey operations shall be conducted per the appended project instructions using four survey launches up to 10 hr/day for data acquisition and project field support. Alternatively, the Commanding Officer may elect to run concurrent 24 hr ship survey operations for short periods of time or for extended periods of time with reduced launch operations.

D. Dive Plan

Dive operations may occur to support the installation, servicing, and removal of a subordinate water level station. Due to the dynamic schedule of survey operations, the specific dates of the dives are not known well in advance. All dives will be conducted by ship's personnel. All dive plans, will be prepared and submitted by ship's personnel as soon as reasonable, and in accordance with the requirements and regulations of the NOAA Diving Program.

E. Applicable Restrictions

Conditions which preclude normal operations:

- Poor weather conditions
- Equipment failure
- Safety concerns
- Personnel shortages

### **III. Equipment**

- A. Equipment and Capabilities provided by the ship (itemized)
- Four fully outfitted and operational survey launches to support shallow water survey operations : hull mounted side scan sonar, multibeam, and vertical beam sonar systems.
  - Ship fully outfitted hydrographic survey equipment to support multibeam survey operations.
  - Personnel and staff to operate the ship’s survey equipment for 24 hr/day operations and a minimum of 2 survey launches and equipment for up to 10 hr/day concurrently, at the discretion of the command to ensure the most efficient survey operations.
  - Fully staffed survey department to efficiently manage the project’s data processing requirements.
- B. Equipment and Capabilities provided by the scientists (itemized)

Hydrographic Surveys Division may provide Physical Scientists for hydrographic data acquisition, processing, training, and data quality assurance support during project survey operations. Additionally, shore based technical support may be provided for survey systems and data acquisition and processing software.

### **IV. Hazardous Materials**

- A. Policy and Compliance

No Hazardous Materials are being brought aboard the ship for this project.

- B. Radioactive Materials

No Radioactive Isotopes are planned for this project.

### **V. Additional Projects**

- A. Supplementary (“Piggyback”) Projects

N/A

- B. NOAA Fleet Ancillary Projects

No NOAA Fleet Ancillary Projects are planned.

### **VI. Disposition of Data and Reports**

Disposition of data gathered aboard NOAA ships will conform to NAO 216-101 *Ocean Data Acquisitions* and NAO 212-15 *Management of Environmental Data and Information*. To guide the implementation of these NAOs, NOAA’s Environmental Data Management Committee (EDMC) provides the *NOAA Data*

*Documentation Procedural Directive* (data documentation) and *NOAA Data Management Planning Procedural Directive* (preparation of Data Management Plans). OMAO is developing procedures and allocating resources to manage OMAO data and Programs are encouraged to do the same for their Project data.

## **VII. Meetings, Vessel Familiarization, and Project Evaluations**

- A. Pre-Project Meeting: The Principal Investigator and the Commanding Officer will conduct a meeting of pertinent members of the scientific party and ship's crew to discuss required equipment, planned operations, concerns, and establish mitigation strategies for all concerns. This meeting shall be conducted before the beginning of the project with sufficient time to allow for preparation of the ship and project personnel. The ship's Operations Officer usually is delegated to assist the Project Manager in arranging this meeting.
- B. Vessel Familiarization Meeting: The Commanding Officer is responsible for ensuring scientific personnel are familiarized with applicable sections of the standing orders and vessel protocols, e.g., meals, watches, etiquette, drills, etc. A vessel familiarization meeting shall be conducted in the first 24 hours of the project's start and is normally presented by the ship's Operations Officer.
- C. Post-Project Meeting: The Commanding Officer is responsible for conducting a meeting no earlier than 24 hrs before or 7 days after the completion of a project to discuss the overall success and short comings of the project. Concerns regarding safety, efficiency, and suggestions for future improvements shall be discussed and mitigations for future projects will be documented for future use. This meeting shall be attended by the ship's officers, applicable crew, the Commanding Officer, and members of the scientific party and is normally arranged by the Operations Officer.
- D. Project Evaluation Report

Within seven days of the completion of the project, a Customer Satisfaction Survey is to be completed by the Commanding Officer. The form is available at <http://www.oma.noaa.gov/fleeteval.html> and provides a "Submit" button at the end of the form. Submitted form data is deposited into a spreadsheet used by OMAO management to analyze the information. Though the complete form is not shared with the ships', specific concerns and praises are followed up on while not divulging the identity of the evaluator.

## **VIII. Miscellaneous**

- A. Meals and Berthing

The ship will provide meals for the scientists listed above. Meals will be served 3 times daily beginning one hour before scheduled departure, extending throughout the project, and ending two hours after the termination of the project. Since the watch schedule is split between day and night, the night watch may often miss daytime meals and will require adequate food and beverages (for example a variety of sandwich items, cheeses, fruit, milk, juices) during what are not typically

meal hours. Special dietary requirements for scientific participants will be made available to the ship's command at least seven days prior to the project.

Berthing requirements, including number and gender of the scientific party, will be provided to the Commanding Officer by the Principal Investigator. The Commanding Officer will work on a detailed berthing plan to accommodate the gender mix of the scientific party taking into consideration the current make-up of the ship's complement.

All NOAA scientists will have proper travel orders when assigned to any NOAA ship. The Principal Investigator will ensure that all non NOAA or non-Federal scientists aboard also have proper orders. It is the responsibility of the Principal Investigator to ensure that the entire scientific party has a mechanism in place to provide lodging and food and to be reimbursed for these costs in the event that the ship becomes uninhabitable and/or the galley is closed during any part of the scheduled project.

All persons boarding NOAA vessels give implied consent to comply with all safety and security policies and regulations which are administered by the Commanding Officer. All spaces and equipment on the vessel are subject to inspection or search at any time. All personnel must comply with OMAO's Drug and Alcohol Policy dated May 17, 2000 which forbids the possession and/or use of illegal drugs and alcohol aboard NOAA Vessels.

#### B. Medical Forms and Emergency Contacts

The NOAA Health Services Questionnaire (NHSQ, NF 57-10-01 (3-14)) must be completed in advance by each participating scientist. The NHSQ can be obtained from <http://www.corporateservices.noaa.gov/noaforms/eforms/nf57-10-01.pdf>.

All NHSQs submitted after March 1, 2014 must be accompanied by [NOAA Form \(NF\) 57-10-02](#) - Tuberculosis Screening Document in compliance with [OMAO Policy 1008](#) (Tuberculosis Protection Program).

The completed forms should be sent to the Regional Director of Health Services at the applicable Marine Operations Center. The NHSQ and Tuberculosis Screening Document should reach the Health Services Office no later than 4 weeks prior to the start of the project to allow time for the participant to obtain and submit additional information should health services require it, before clearance to sail can be granted. Please contact MOC Health Services with any questions regarding eligibility or completion of either form. Ensure to fully complete each form and indicate the ship or ships the participant will be sailing on. The participant will receive an email notice when medically cleared to sail if a legible email address is provided on the NHSQ.

The participant can mail, fax, or email the forms to the contact information below. Participants should take precautions to protect their Personally Identifiable Information (PII) and medical information and ensure all correspondence adheres to DOC guidance ([http://ocio.os.doc.gov/ITPolicyandPrograms/IT\\_Privacy/PROD01\\_008240](http://ocio.os.doc.gov/ITPolicyandPrograms/IT_Privacy/PROD01_008240)).

The only secure email process approved by NOAA is [Accellion Secure File Transfer](#) which requires the sender to setup an account. [Accellion's Web Users Guide](#) is a valuable aid in using

this service, however to reduce cost the DOC contract doesn't provide for automatically issuing full functioning accounts. To receive access to a "Send Tab", after your Accellion account has been established send an email from the associated email account to [accellionAlerts@doc.gov](mailto:accellionAlerts@doc.gov) requesting access to the "Send Tab" function. They will notify you via email usually within 1 business day of your approval. The 'Send Tab' function will be accessible for 30 days.

Contact information:

Regional Director of Health Services  
Marine Operations Center – Pacific  
2002 SE Marine Science Dr.  
Newport, OR 97365  
Telephone 541-867-8822  
Fax 541-867-8856  
Email [MOP.Health-Services@noaa.gov](mailto:MOP.Health-Services@noaa.gov)

Prior to departure, the Executive Officer will obtain an electronic listing of emergency contacts for all members of the scientific party, with the following information: contact name, address, relationship to member, and telephone number.

#### C. Shipboard Safety

Hard hats are required when working with suspended loads. Work vests are required when working near open railings and during small boat launch and recovery operations. Hard hats and work vests will be provided by the ship when required.

Wearing open-toed footwear or shoes that do not completely enclose the foot (such as sandals or clogs) outside of private berthing areas is not permitted. At the discretion of the ship CO, safety shoes (i.e. steel or composite toe protection) may be required to participate in any work dealing with suspended loads, including CTD deployment and recovery. The ship does not provide safety-toed shoes/boots. The ship's Operations Officer should be consulted by the Principal Investigator to ensure members of the scientific party report aboard with the proper attire.

#### D. Communications

A progress report on operations prepared by the Commanding Officer may be relayed to the program office. The ship's primary means of communication with the Marine Operations Center is via email and the Very Small Aperture Terminal (VSAT) link. Standard VSAT bandwidth at 128kbs is shared by all vessels staff and the science team at no charge. Increased bandwidth in 30 day increments is available on the VSAT systems at increased cost to the scientific party. If increased bandwidth is being considered, program accounting is required and it must be arranged through the ship's Commanding Officer at least 30 days in advance.

#### E. IT Security



Any computer that will be hooked into the ship's network must comply with the *OMAO Fleet IT Security Policy* 1.1 (November 4, 2005) prior to establishing a direct connection to the NOAA WAN. Requirements include, but are not limited to:

- (1) Installation of the latest virus definition (.DAT) file on all systems and performance of a virus scan on each system.
- (2) Installation of the latest critical operating system security patches.
- (3) No external public Internet Service Provider (ISP) connections.

Completion of the above requirements prior to boarding the ship is required.

Non-NOAA personnel using the ship's computers or connecting their own computers to the ship's network must complete NOAA's IT Security Awareness Course within 3 days of embarking.

F. Foreign National Guests Access to OMAO Facilities and Platforms

Foreign National access to the NOAA ship or Federal Facilities is not required for this project.

## **VIII. Appendices**

1. Primary Project Instructions: OPR-P136-RA-16 North Kodiak Island, AK

# Hydrographic Survey Project Instructions

<b>Project Name:</b>	North Coast of Kodiak Island, AK
<b>Project Number:</b>	OPR-P136-RA-16
<b>Assigned Field Unit:</b>	NOAA Ship <i>Rainier</i>
<b>Assigned Processing Branch:</b>	Pacific Hydrographic Branch
<b>Signed Date:</b>	05/16/2016
<b>Project Instructions Version:</b>	Final
<b>Planned Acquisition Time:</b>	Start Date: 05/2016 End Date: 07/2016
<b>Delivery Dates:</b>	120 days from completion of data acquisition.

<b>Purpose and Location:</b>
The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charting products, which will support Kodiak's large fishing fleet and increasing levels of passenger vessel traffic. This project will cover a total of approximately 132 square nautical miles of Emerging Critical and Navigationally Significant areas as identified in the 2012 NOAA Hydrographic Survey Priorities (NHSP). This project is located in North Kodiak, Alaska and encompasses approximately 132 square nautical miles of survey area.
<b>Supporting Documents:</b>
Hydrography shall consist of Navigable Area Surveys in accordance with the following support documents.
NOS Hydrographic Surveys Specifications and Deliverables Manual (HSSD), March 2016
NOS Field Procedures Manual for Hydrographic Surveying (FPM), April, 2014
Hydrographic Survey Technical Directive (HTD): HTD 2015-1 Configuration Management

**PERSONNEL SAFETY AND DATA QUALITY SHALL ALWAYS BE EMPHASIZED OVER DATA QUANTITY! THE HYDROGRAPHER SHALL NEVER SUBJECT PERSONNEL OR BOATS TO UNDUE RISKS AND HAZARDS.**

**Registry Details:**

**General Locality:** North Coast of Kodiak

<i>Registry Number</i>	<i>Sheet Number</i>	<i>Sublocality</i>	<i>State or Territory</i>	<i>Scale</i>	<i>Estimated SNM</i>	<i>Instructions</i>
H12693	1	Cape Uganik to Raspberry Cape	Alaska	40000	43	
H12850	2	Entrance to Uganik Bay	Alaska	40000	29	
H12851	3	Uganik Bay	Alaska	40000	11	
H12916	4	Messa	Alaska	40000	10	
H12919	5	Uganik	Alaska	40000	5	
H12848	6	Uganik Passage	Alaska	40000	9	
H12917	7	Village Islands	Alaska	40000	12	
H12849	8	Southeast Arm	Alaska	40000	6	
H12918	9	Northeast Arm	Alaska	40000	6	

**Limits & Coverage:**

**Inshore Limit:** The Inshore Limit is the Navigable Area Limit Line (Refer to HSSD 1.2.2).

**Coverage Requirements:**

<i>Coverage Water Depth</i>	<i>Coverage Required</i>
Inshore limit to 8 meters water depth	Complete coverage MB with backscatter (Section 5.2.2.3) or Set Line Spacing MBES or SBES at 100m (HSSD Section 5.2.2.4).
Greater than 8 meters water depth	Complete Coverage MBES (HSSD Section 5.2.2.3 Option A).

**Assigned Tasks**

**Acknowledgement:**

The project manager for this project is Lori Powdrell. Contact information for the project manager may be found in the User Contacts section of this document. The field unit shall acknowledge receipt of these instructions and submit any comments or questions via email to the project manager. Additionally, the project manager shall be included on all discussions or correspondence involving issues concerning the project.

**Environmental Compliance Requirements**

Comply with the marine mammal observation and reporting requirements in Section 1.4 of the HSSD.

**Aids to Navigation (ATONs):**

There are no ATONs specifically assigned for this project. Any ATONs located within the survey area should be verified so that they serve their intended purpose in accordance with Section 7.2 of the HSSD.

**AWOIS Items:**

There are no AWOIS investigation requirements for this project. For reference, a dataset containing all AWOIS items can be accessed within the GIS files located within the project folder or found in multiple formats at [http://www.nauticalcharts.noaa.gov/hsd/wrecks\\_and\\_obstructions.html](http://www.nauticalcharts.noaa.gov/hsd/wrecks_and_obstructions.html)

**Maritime Boundary Points (MBPs):**

Investigate Maritime Boundary Points in accordance with Section 3.5.6 of the FPM and Section 7.2.1 of the HSSD.

<i>Number of MBPs provided for <u>Full Investigation</u>: (when safety permits, search inshore of the NALL line for these maritime boundary features)</i>	6
<i>Number of MBPs provided for <u>Information Only</u>:</i>	5

**Bottom Samples:**

Obtain bottom samples in accordance with Section 7.2 and 7.2.2.

**Chart Comparison:**

Perform a chart comparison in accordance with Sections 8.1.4 and D.1 of the HSSD. Use only the latest editions of the largest scale NOS charts covering the project area. Resolve any discrepancies identified in the field and explain them in the Descriptive Report. The charts, listed below, were used in the preparation of these project instructions and accompanying project files, however, this list is for reference only and not exhaustive. Some charts listed may have larger scale sections to which survey data must be compared.

**Affected Raster Charts**

<i>Chart Number</i>	<i>Scale</i>	<i>Edition Number</i>	<i>Edition Date</i>	<i>Kapp Number</i>	<i>LNK Date</i>	<i>NM Date</i>
16576	80000	5	04/2015	2871	04/05/2016	04/09/2016
16594	78900	14	01/2015	2553	04/05/2016	04/09/2016
16597	80000	10	04/2015	2559	04/05/2016	04/09/2016

**Affected ENC's**

<i>ENC Name</i>	<i>Scale</i>	<i>Edition</i>	<i>Update Application Date</i>	<i>Issue Date</i>	<i>Preliminary</i>
US4AK5BM	80000	3	10/14/2015	10/14/2015	NO
US4AK5QM	80000	6	04/17/2016	04/17/2016	NO
US4AK5PM	78900	6	04/17/2016	04/17/2016	NO

**Coast Pilot:**

Perform a Coast Pilot Review as described in HSSD Section 8.1.3.

**Dangers to Navigation (DTONs):**

Generate DTON reports in accordance with Section 1.5 of the HSSD. DTON reports should be sent to ocs.ndb@noaa.gov with a courtesy copy to the project manager. It is of paramount importance that DTONs be reported as soon as possible.

**Junctions:**

Perform a junction analysis with the surveys listed below and between current project sheets. Refer to HSSD 8.1.4 Junction guidance.

<i>Registry Number</i>	<i>Scale</i>	<i>Year</i>	<i>Platform</i>	<i>Relative Location</i>
H12694	40000	2014	NOAA Ship <i>Rainier</i>	N
H12692	40000	2015	NOAA Ship <i>Rainier</i>	E

**Progress Reports:**

Submit weekly (refer to HSSD 8.1.1.1) and monthly (refer to HSSD 8.1.1.2) progress reports.

**Survey Outlines:**

Generate and submit a survey outline in accordance with Section 8.1.2 of the HSSD.

**Special Data Handling Requirements:**

*ATTENTION:* NOAA Ship Rainier

Submit sound speed data to NCEI in accordance with Section 8.3.6 of the HSSD.

**Horizontal Control Requirements:**

Comply with the horizontal control requirements in Section 3 of the HSSD.

***PPK***

This project has a requirement to reference the survey data to the ellipse, which may require field-installed control stations, using either a single base or smartbase processing solution. At the commencement of survey operations, check lines should be run across the entirety of these sheets to confirm the operational status of the field-installed stations, and to measure the anticipated uncertainties of the positioning solution. The results of these check lines should be reported back to HSD Operations. Refer to ERZT Section below

**Vertical Control Requirements:**

Comply with the vertical control requirements in Section 4 of the HSSD.

***TCARI***

Comply with the requirements from CO-OPS which are included with the project data from the Operations Branch. Submit surveys with final approved water levels applied. Contact the Operations Branch if this causes the survey to miss a submission deadline.

***ERZT***

This project has a requirement to reference the survey data to an existing ellipse. Based on analysis of existing infrastructure, this will most likely be achieved through a existing PBO station, using a single base processing solution. At the commencement of survey operations, check lines should be run across the entirety of any sheets for which the PBO station will be used for control, to confirm the operational status of the control station, and to measure the anticipated uncertainties of the single base solution. The results of these check lines should be reported back to HSD Project Manager with a CC to ERS.Deliverables@noaa.gov. All survey lines shall be delivered with SBET/RMS files applied and GPS tides computed. The field shall be required to test the Ellipsoid Referenced Zoned Tides(ERZT) model and provide feedback on the procedures. Should the ERZT method prove successful, then all delivered grids at chart datum shall be derived via the ellipse. Within 60 days of the completion of acquisition, the field unit shall prepare an ERS Capability Memorandum, submitted to HSD Project Manager with a CC to ERS. Deliverables@noaa.gov, summarizing the degree to which ERS surveying campaign was successful.

***NWLON Gauges***

<i>Operating Water Level Station</i>	<i>Station ID</i>
Seldovia	945-5500

**Orthometric Imagery:**

No Orthometric Imagery has been provided for this project.

**Shoreline and Nearshore Features:**

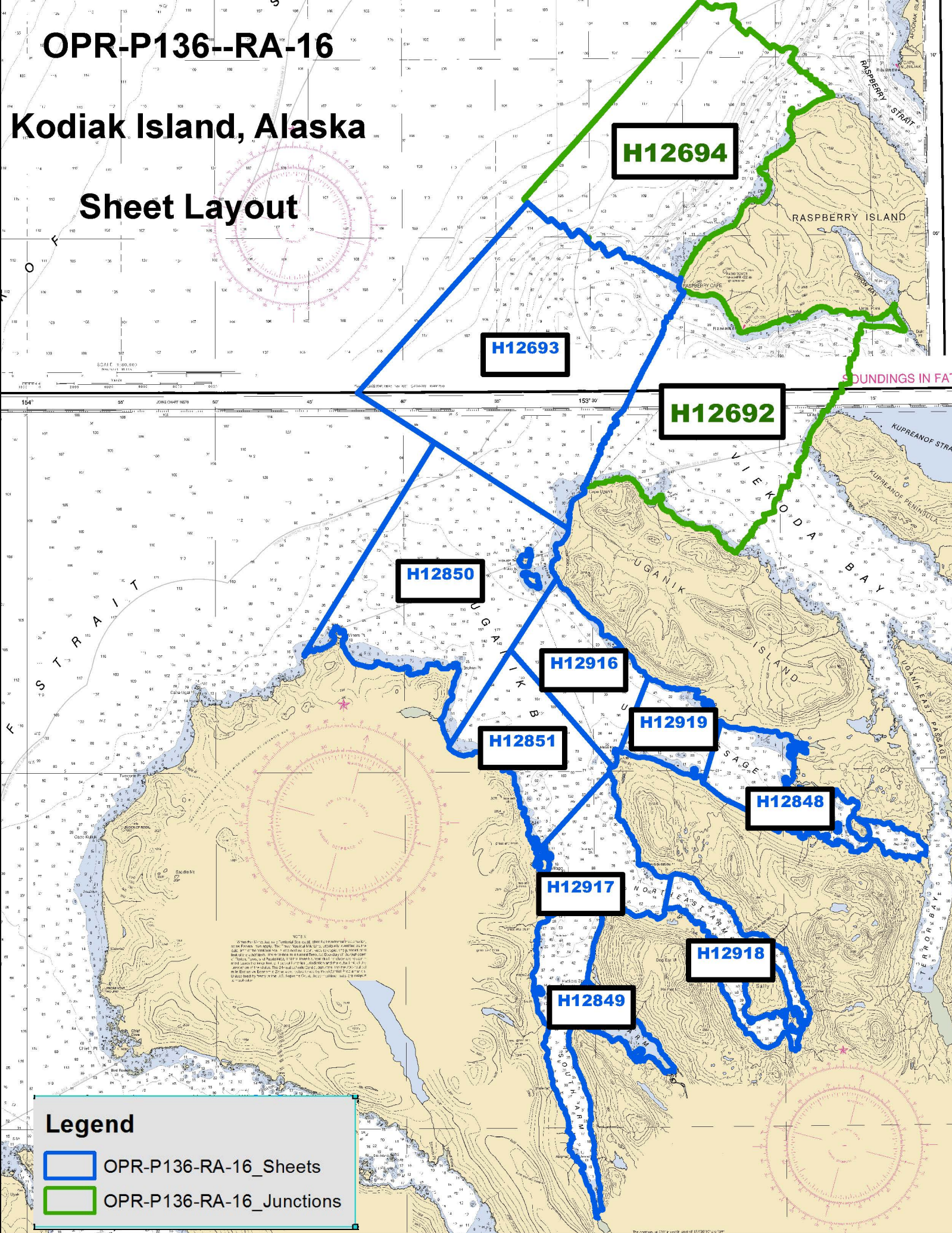
Conduct a limited shoreline verification using the composite source file (CSF). All features with attribute asgnmt populated with 'Assigned' shall be addressed in accordance with Sections 5.2.1.2 and 8.2 of the HSSD, even if they are inshore of NALL. Preliminary analysis of the nautical chart and imagery from Google Earth was conducted at HSD Ops. Google Earth imagery and the nautical chart were in alignment. Submit a Final Feature File in accordance with Section 7 of the HSSD. Contact the HSD Project Manager if there are any questions regarding feature assignments and feature management.



# OPR-P136--RA-16

## Kodiak Island, Alaska

### Sheet Layout



#### Legend

-  OPR-P136-RA-16\_Sheets
-  OPR-P136-RA-16\_Junctions



## **User Contacts**

*The following primary offices and persons shall be contacted at or near the beginning and end of the field operations to discuss survey objectives and accomplishment (Mandatory) or are listed for contact at the discretion of the Commanding Officer (Reference).*

### **Project Manager**

Lori Powdrell

NOAA

*Phone:* 301-713-2702 ext. 133

*Fax:*

*Email:* lori.powdrell@noaa.gov

*Obligation:* Mandatory

### **Back-Up Project Manager**

Jacklyn James

NOAA

*Phone:* 301-713-2702 ext. 120

*Fax:*

*Email:* jacklyn.c.james@noaa.gov

*Obligation:* For Reference

### **NOAA Navigation Manager**

LT Timothy Smith

NOAA

*Phone:* 907-271-3327

*Fax:*

*Email:* timothy.m.smith@noaa.gov

*Obligation:* For Reference

**WATER LEVEL INSTRUCTIONS**  
**OPR-P136-RA-16 North Coast of Kodiak Island, AK**  
**(05/06/2016 CF)**

**1.0. TIDES AND WATER LEVELS**

**1.1. Specifications**

Tidal data acquisition, data processing, tidal datum computation and final tidal zoning shall be performed utilizing sound engineering and oceanographic practices as specified in National Ocean Service (NOS) Hydrographic Surveys Specifications and Deliverables (HSSD), dated March 2016, and OCS Field Procedures Manual (FPM), dated April, 2014. Specifically reference Chapter 4 of the HSSD and Sections 1.5.8, 1.5.9, 2.4.3, and 3.4.2 of the FPM.

**1.2. Vertical Datums**

The tidal datums for this project are referenced to Chart Datum, Mean Lower Low Water (MLLW) and Mean High Water (MHW). Soundings are referenced to MLLW and heights of overhead obstructions (bridges and cables) are referenced to MHW.

**1.2.1. Water Level Data Acquisition Monitoring**

The Commanding Officer (or Team Leader) and the Center for Operational Oceanographic Products and Services (CO-OPS) are jointly responsible for ensuring that valid water level data are collected during periods of hydrography. The Commanding Officer (or Team Leader) is required to monitor the pertinent water level data via the CO-OPS Web site at <http://tidesandcurrents.noaa.gov/hydro.shtml>, or through regular communications with CO-OPS/Oceanographic Division (OD) personnel before and during operations. During traditional non duty hours, the Commanding Officer/Team Leader may contact the Continuous Operational Real-Time Monitoring System (CORMS) watch stander who is available 24 hours/day - 7 days/week for assistance in assessing the status of applicable water level station operation. The CORMS watch stander may be contacted either by phone at 301-713-2540 or by email: [CORMS@noaa.gov](mailto:CORMS@noaa.gov). Problems or concerns regarding the acquisition of valid water level data identified by the Commanding Officer/Team Leader shall be communicated with CO-OPS/OD ([nos.coops.hpt@noaa.gov](mailto:nos.coops.hpt@noaa.gov)) to coordinate the appropriate course of action to be taken such as gauge repair and/or developing contingency plans for hydrographic survey operations. In addition, CO-OPS is required to coordinate with the Commanding Officer (or Team Leader) before interrupting the acquisition of water level data for the NWLON stations mentioned above for any reason during periods of hydrography.

**1.2.2. The Hydro Hot List (HHL)**

Please contact the CO-OPS/Hydrographic Planning Team (HPT) at [nos.coops.hpt@noaa.gov](mailto:nos.coops.hpt@noaa.gov) and the Operational Engineering Team (OET) at [nos.coops.oetteam@noaa.gov](mailto:nos.coops.oetteam@noaa.gov) at least three business days before survey operations begin, and within 1 business day after survey operations are completed so that the appropriate CO-OPS National Water Level Observation Network (NWLON) control water level station is added to or removed from the CO-OPS Hydro Hotlist (HHL) (<http://tidesandcurrents.noaa.gov/hydro>). Include start and end survey dates, full project number (e.g. OPR-H355-TJ-10), and control station numbers. The notification must be sent to both teams as OET is responsible for configuring the stations in the CO-OPS data base and HPT manages the addition and removal of stations from the HHL.

Station	Station ID	Control or Subordinate	Type (NWLON, PORTS <sup>®</sup> , etc.)	Comment
Seldovia, AK	9455500	Control	NWLON	

Table 1: All stations that need to be added to the HHL in support of P136RA2016

It is important to know that the addition of a water level station to the HHL ensures the station is monitored by CORMS and any problems are reported daily. However, platforms should view the HHL each morning of active survey operations and click on the “Plot” to double check that there are no problems with the required stations on that day. If a platform notices problems with data on their survey day of operation, please contact HPT at [nos.coops.hpt@noaa.gov](mailto:nos.coops.hpt@noaa.gov), CORMS at [CORMS@noaa.gov](mailto:CORMS@noaa.gov), and their respective headquarters point of contact at HSD or NSD. Stations on the HHL are given priority for maintenance should a station cease normal operation during scheduled times of hydrography. CO-OPS will notify a field unit within 1 business day if a HHL water level station ceases operation during scheduled times of hydrography. This is in addition to the daily CORMS report that CORMS sends to NOAA field units, if the field unit's e-mail address is added to the CORM's daily e-mail list. To be added to the CORMS daily HHL report, the platform should contact CO-OPS' Data Monitoring and Analysis Team (DMAT) at [nos.co-ops.dmat@noaa.gov](mailto:nos.co-ops.dmat@noaa.gov) and request to be added.

If the stations are listed on HHL, then weekly priority processing will occur and, for those water level stations, verified 6-minute water level data will be made available every week on Monday or Tuesday. If Monday happens to be a federal holiday, then the 6-minute verified water level data will be made available on the following Tuesday or Wednesday. In order to ensure that verified data is correctly downloaded please **select a date that is more than 7 days prior to the day of interest** in the 'From' field on the CO-OPS website.

### 1.3. Operating Tide Reducer Stations

#### 1.3.1. CO-OPS Long Term Water Level Station Operation and Maintenance

The NWLON station Seldovia, AK (9455500), will provide water level reducers for this project. Therefore it is critical that it remains in operation during the survey. See Sections 1.1. and 1.2. concerning responsibilities.

No leveling is required at Seldovia, AK (9455500), by NOAA's Rainier personnel.

CO-OPS/FOD is responsible for the operation and maintenance of all NWLON primary control stations. If a problem is identified at an NWLON primary control station, FOD shall make all reasonable efforts to repair the malfunctioning station. However, CO-OPS may request assistance from the NOAA ship or NRT personnel in the actual repair of the water level station to facilitate a rapid repair. CO-OPS/FOD and the Commanding Officer (or Team Leader) shall maintain the required communications until the repairs to the water level station have been completed.

#### 1.3.2. Subordinate Station Requirements

No subordinate water level stations are required for this project, however, supplemental and/or back-up water level stations may be necessary depending on the complexity of the hydrodynamics and/or the severity of the environmental conditions of the project area. The installation and continuous operation of water level measurement systems (tide gauges) at subordinate station locations is left to the discretion of the Commanding Officer (or Team Leader), subject to the approval of CO-OPS. If the Commanding Officer (or Team Leader) decides to install additional water level stations, then a 30-day minimum of continuous data acquisition is required. For all subordinate stations, data must be collected throughout the

entire survey period for which they are applicable, and not less than 30 continuous days. This is necessary to facilitate the computation of an accurate datum reference as per NOS standards.

### **1.3.3. Tide Component Error Estimation**

This section is not applicable for this project. Tidal Constituent And Residual Interpolator (TCARI) automatically calculates the error associated with water level interpolation. This error is incorporated into the residual/harmonic solutions and included in the Total Propagated Error (TPE) for the survey. Uncertainty values input into TCARI model are 2-sigma. Pydro will automatically supply 1-sigma values to CARIS when computing uncertainty.

### **1.3.4. GOES Satellite Enabled Subordinate Stations**

This section is not applicable for this project.

### **1.3.5. Benchmark Recovery and GPS Requirements**

This section is not applicable for this project.

### **1.3.6. Residual Water Level Station(s) Data**

Tidal Constituent And Residual Interpolation (TCARI) method uses harmonic constituents and residuals from historical and operating water level stations to provide precise water level correction for bathymetric surveys. Download the Preliminary/Verified data at following water level station(s) data for all periods of survey.

The operating station at Seldovia, AK (9455500) will provide residuals for this project and must remain in operation during all periods of hydrography.

<u>Station Number</u>	<u>Station Name</u>	<u>Latitude(N)</u>	<u>Longitude(W)</u>
<b>9455500</b>	<b>Seldovia, AK</b>	<b>59°26.4'</b>	<b>151°43.2'</b>

## **1.4. Tidal Constituent and Residual Interpolation (TCARI)**

**1.4.1.** For hydrography in the area of North Coast of Kodiak Island, AK, apply the TCARI grid “P136RA2016.tc” supplied in conjunction with the water level data from Section 1.3.6 to produce a seamless tide correction. Refer to the TCARI Field SOP for detailed TCARI instructions.

**1.4.2.** This section is not applicable for this project.

### **1.4.3. TCARI Graphic**

A diagram which includes the exported TCARI grid boundary, is provided in digital copy format to assist with the information provided in section 1.4.1.

### **1.4.4. TCARI Final Solutions**

Upon completion of project, submit a Pydro generated request for smooth tides, with times of hydrography abstract and mid/mif tracklines attached. Forward this request to [final.tides@noaa.gov](mailto:final.tides@noaa.gov). Provide the project number, as well as sheet number, in the subject line of the email.

CO-OPS will review the times of hydrography, final tracklines, and six-minute water level data from all applicable water level gauges. If there are any discrepancies, CO-OPS will make the appropriate adjustments and forward a revised TCARI grid and solutions to the field group and processing branch for final processing.

### **1.5. Fetchtides**

Preliminary and verified six minute water level time series data may be retrieved from the CO-OPS database via the Fetchtides application. Fetchtides provides a mechanism to store imported data locally and combines multiple days of data into one CARIS readable tide (.tid) file. Fetchtides is available for download at Hydrosoft Online (<https://inside.nos.noaa.gov/hydrosoft/hydrosoftware.html>). For more information, please see the Fetchtides User Manual in the FPM chapter 3 appendix.

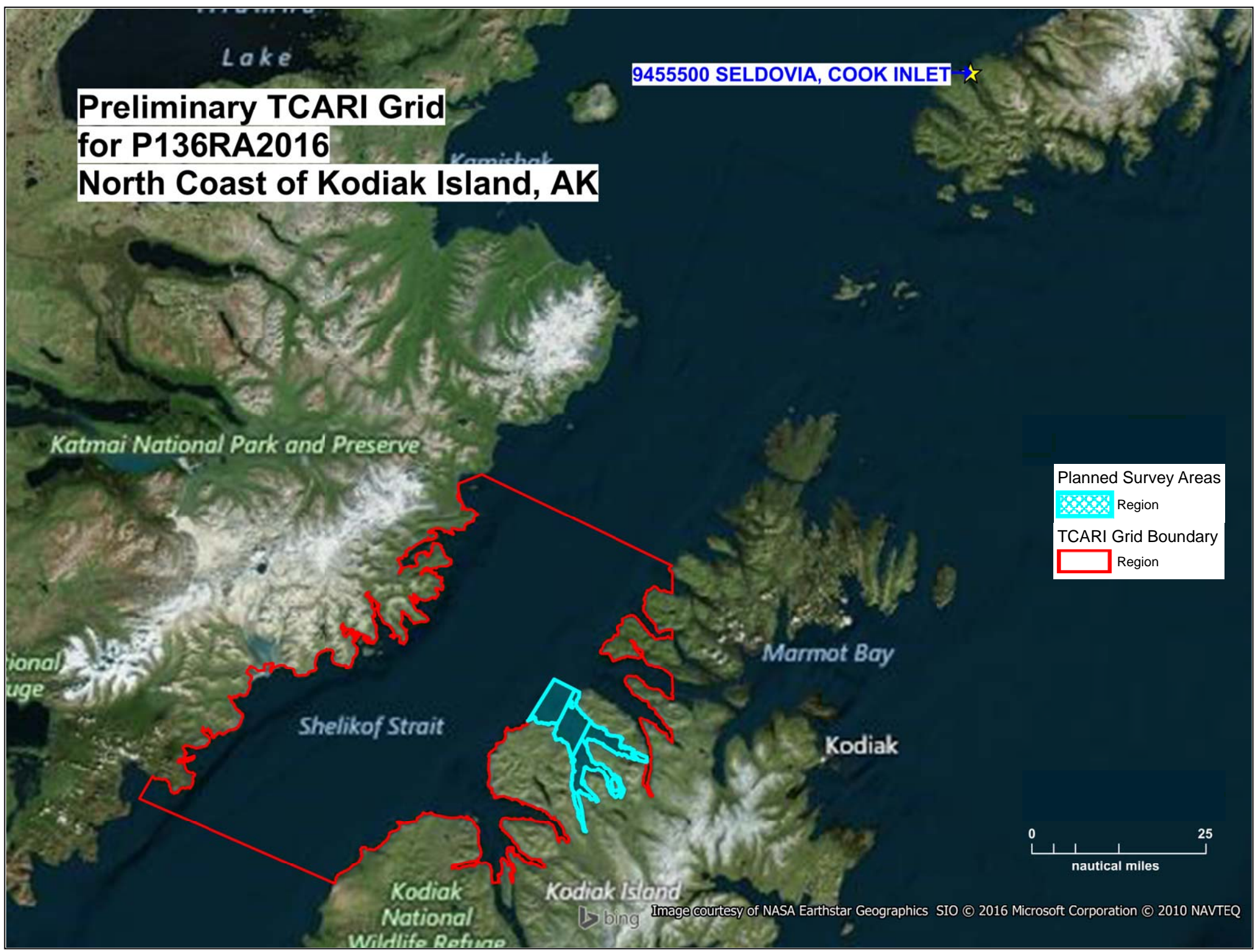
### **1.6 Water Level Records**


This section is not applicable for this project.




**Preliminary TCARI Grid  
for P136RA2016  
North Coast of Kodiak Island, AK**

9455500 SELDOVIA, COOK INLET 



Planned Survey Areas  
 Region

TCARI Grid Boundary  
 Region

